

# Ghana

Renewable Energy-based Rural Energy Services Company (RESCO)

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Unelectrified Population = 11 million people

## Renewable Energy for Rural Social and Economic Development in Ghana

- Execution: Ministry of Mines and Energy
- Implementation: A new corporation not tied to the existing electric utility infrastructure
- Timetable: Fall 1998, for three years
- Pilot region: Mamprusi East district
- Unelectrified population in pilot region: tens of thousands of people in over 70 villages
- NREL is the principal collaborating international scientific institution, participating in project design, implementation, training, and technical support.



## Renewable Energy Applications for the Rural Communities

- **Community applications** - potable water supply, power for health clinics, schools, public lighting, community halls, churches and mosques, and telecommunications and entertainment
- **Productive uses** - small-scale irrigation, post-harvest processing, grain grinding, cold storage, guest houses, shops, bars, dress makers, artisans, and video stores
- **Household applications** - lighting, entertainment, and new high-efficiency low-emission cooking
- **Government services** - lighting, fans, and communications for government facilities.

## A UNDP/GEF Path-Finding Initiative

- US\$3 million cost-shared project (UNDP/GEF, Government of Ghana, and U.S. DOE/NREL)
- Sub-Saharan Africa's first renewable energy-based rural energy services company (RESCO)
- The goal is to demonstrate bankability and sustainability, and the supply of priority energy services to communities willing and able to pay
- Photovoltaic and other technologies will be used to provide energy services on a cost-recovery fee-for-service basis
- An independent corporation will implement the pilot project.



## Working to Ensure Sustainability

- RESCO is designed to be profit-making, with services provided on a *willingness and ability to pay* basis.
- RESCO will own and maintain the equipment, including selected end-use equipment (e.g., grain mills, cold storage, and water supply systems).
- Three service centers spanning the pilot region (service territory) will be established.
- Use of traditional and effective system of bonded cashiers for revenue recovery.

## Ghana's Unelectrified Communities

- 4,000 unelectrified communities with several million people.
- Water supply by advanced hand pumps, with round-the-clock pumping by women in many villages during dry season.
- Water-borne disease is a leading source of death and disability.
- Unelectrified health posts and schools limit health services and education.
- Lack of electricity constrains economic productivity and growth.